

REMARKS

Claims 1-32 are pending and stand rejected as final. Applicant respectfully requests reconsideration of the rejection in view of following remarks and the attached Declaration.

The Prior Art Rejections

Each of the claims was rejected either under 35 U.S.C. §102(b) as being anticipated by, or under 35 U.S.C. §103(a) as being unpatentable over either U.S. Patent No. 3,492,154 to Einstman (hereinafter referred to as "Einstman"), U.S. Patent No. 3,553,008 to Reischl et al. (hereinafter referred to as "Reischl"), or one of these Patents in combination with one or more other Patents. The Action stated that each of these two references discloses a polymer that is gelled, whether or not the solvent that causes gelling is expressly referred to a "gelling" or "swelling" solvent. The Action further stated that Applicant has failed to show a functional difference between the respective gelled polymers that are created by the respective processes.

Attached as an Appendix is a Declaration of Applicant/Inventor Timothy A. Ringeisen. This Declaration of Mr. Ringeisen shows a functional difference between the actions of the respective liquids that cause gelling of the polymer solution. One of the differences is that the liquids of Einstman and Reischl do not cause gelling of the entire volume of solution as do the claimed second solvents. This is an inherent characteristic of the claimed "*second solvent that causes the solution to thicken to a gel*", and it is expressly stated as such, for example, at page 4, lines 39-41. Thus, the liquids of Einstman and Reischl that cause gelation are not the same as the claimed second solvents of Applicant. As the Declaration points out, these liquids are non-solvents or failed solvents.

Claims 1, 8, 10, 15, 16, 23, 24, 26, 27, 29, 31 and 32 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,077,049 to Dunn et al. (hereinafter referred to as "Dunn"). Further, claims 14 and 28 were rejected under 35 U.S.C. §103(a) as being unpatentable over Dunn in view of U.S. Patent No. 3,553,008 to Reischl et al. (hereinafter referred to as "Reischl").

Applicant respectfully traverses these rejections.

Applicant respectfully submits that Dunn neither discloses nor suggests the claimed invention, and more specifically, neither discloses nor suggests the claimed second solvent that swells polymer in solid form, but gels a solution of the polymer. Dunn teaches injecting a polymeric solution into the human body. The solvent for the polymer is water-miscible, so upon contact with (aqueous-based) body fluid, e.g., saline solution, the latter extracts the solvent. As is disclosed in other prior art documents this contact with aqueous solution coagulates the polymer, thereby forming a solid or gelatinous implant. It is true that Dunn discloses DMSO (dimethyl sulfoxide), but he lists it as a candidate solvent (column 5, line 45) for dissolving

one or more of a long list of polymers. Dunn goes on to explain that not all of his listed solvents will dissolve every polymer listed (col. 5, lines 52-58). There is no disclosure or suggestion in Dunn that DMSO, when used in combination with the right polymer and with a dissolving solvent, will gel the polymer/solvent solution. There is not even a suggestion in Dunn to use DMSO in combination with another of the listed solvents. Again, for gelation, Dunn uses water, a well-known non-solvent (his claim reads "water-coaguable). As discussed previously, the attached Declaration shows the difference in effect on the gelation process between a non-solvent solvent and Applicant's swelling solvent (sometimes referred to as a "gelling solvent"). Accordingly, applicants respectfully request that these rejections be withdrawn.

As for the overlap issue: It is true that, in certain instances, the same chemical is identified by the reference and the present application, yet seemingly performing different functions.

Example: Dunn discloses DMSO as a dissolving (i.e., first) solvent, whereas in one embodiment of the present invention, it is listed as a solvent that causes gelling (i.e., second solvent). The Action states that these chemicals have inherent characteristics, and must therefore be behaving in the same way, regardless of the name given to them by the respective inventors. In response, Applicant reminds the Office that it is not enough for the Office to identify the same solvent in the prior art document as in the present application, and assume that they must be functioning in the same way. As Applicant's Declaration shows, the same solvent (e.g., toluene) can act as a dissolving solvent or as a swelling solvent, depending on the polymer with which it is interacting.

Thus, the claimed second solvents are those that cause gelation of the entire solution volume, and as such have been shown to be very different from the prior art non-solvents of Einstman and Reischl and Dunn. Specifically, the addition of non-solvents to a polymer solution cause gelation manifested as a precipitation phenomenon. The solution separates into two distinct phases, and only a portion of the volume is a gel-like mass. Thus, the rejections based on anticipation should be withdrawn. Further, none of the other references applied in the present or former Office Actions can remedy the shortcomings in the disclosures of Einstman and Reischl. Specifically, LeNoane is directed to composite reinforcing elements; Helmus is directed to a polymer having a reservoir for a biologically active agent. Accordingly, the obviousness rejections should be withdrawn as well.

With specific regard to independent claim 1, applicant respectfully submits that none of the applied references disclose or suggest the claimed screening of liquids to *identify a solvent that does not dissolve, but merely swells the chosen polymer in solid form*. This is yet another reason why claim 1 and its dependents are patentable.

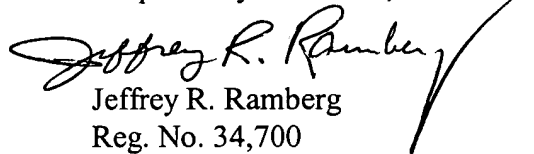
CONCLUSIONS

Applicant's Declaration shows that the respective gelation phenomena are very different--the prior art gelations or coagulations of Einstman and Reischl and Dunn are classic precipitations involving the formation of two distinct phases, and which is caused by exposure of a polymer/solvent solution to a non-solvent, which forces the polymer to "crash" out of solution. This technique is now well known in the art. In contrast, the claimed gelation does not form a visible second phase. Thus, the differences between the prior art and the claimed invention are not mere differences in terminology. Specifically, the respective second solvents that cause gelation are different, since the non-solvents of the prior art cause gelation of a fraction of the entire liquid volume, whereas the second solvents of the claimed invention by definition cause gelation of the entire liquid volume.

In view of the amendments and the above remarks, applicant respectfully submits that the present application is in condition for allowance. Accordingly, applicant respectfully requests issuance of a Notice of Allowance directed to claims 1-32.

Should the Examiner deem that any further action on the part of applicant would be desirable, the Examiner is invited to telephone applicant's undersigned representative.

Respectfully submitted,


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Attachment: Declaration under 37 C.F.R. §1.132 of Inventor Timothy A. Ringeisen